AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~Method~~A method for enhancing the measuring accuracy in an antenna array ~~(1)~~ comprising a number of antenna elements ~~(2)~~, ~~where~~ the method ~~comprises the steps of~~comprising;

~~-receiving analog signals with the antenna array (1) elements, and;~~

~~-producing values for a radiation diagram from the signals,~~

~~characterized in that the method comprises the steps of;~~

a) -receiving analog signals on all antenna elements ~~(2)~~ of the antenna array at a first time t_1;

- producing first values for a first radiation diagram from ~~the~~ values in the signals from the first time t_1, and;

-finding ~~the~~ a maximum point ~~(8)~~ for the first values,

b) - switching off or reducing the signal from one interadjacent antenna element ~~(2)~~ at a second time (t_2);

-receiving analog signals on all antenna elements ~~(2)~~ except from the one switched off or reduced antenna element, and;

- producing second values for a second radiation diagram from ~~the~~ values in the signals from the second time (t_2);

c)-using the first values to calculate a first range ~~(9)~~ referring to the second radiation diagram, outside which the first range ~~(9)~~ grating lobes ~~(7)~~ will appear in the second radiation diagram;

-rejecting all values outside the first range ~~(9)~~, and;

-finding ~~the~~ a maximum point ~~(8)~~ for the second values.

2. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that step~~ further comprising repeating act b) and ~~step~~ act c) ~~is repeated such that~~whereby ~~the~~ an antenna configuration ~~dynamically~~ is dynamically altered such that interadjacent antenna elements ~~2~~ are switched off or reduced until only the outermost antenna elements ~~2~~ remain.

3. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that~~wherein the ~~step~~ act of finding the maximum point ~~(8)~~ for the values ~~refers to~~ comprises calculating at which angle (θ_{max}) the maximum point ~~(8)~~ for the main lobe ~~(6)~~ appears in a radiation diagram.

4. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that method comprises the step of~~further comprising converting the analog signals to digital signals by sampling.

5. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that the method comprises the step of~~further comprising producing a radiation diagram from the values.

6. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that~~wherein the antenna elements ~~(2)~~ have a relative distance such that no grating lobes ~~(7) will~~ occur when using all elements in a full array.

7. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~ system ~~(23)~~ comprising:

an antenna array comprising a number of antenna elements;

~~means for enhancing the measuring accuracy in an antenna array (1) comprising a number of antenna elements (2), where the antenna array (1) system (23) comprises;~~

[[-]]means ~~(13)~~ for receiving analog signals with the antenna array ~~(1)~~ elements, and;

[[-]]means ~~(14)~~ for producing values for a radiation diagram from the signals,

~~characterized in that antenna array (1) comprises;~~

a)[[–]] means ~~(13)~~ for receiving analog signals on all antenna elements ~~(2)~~ of the antenna array at a first time (t_1);

–[[-]]means ~~(14)~~ for producing first values for a first radiation diagram from ~~the~~ values in the signals from the first time (t_1), and;

[[-]]means ~~(15)~~ for finding ~~the~~ a maximum point ~~(8)~~ for the first values,

b)[[–]] means ~~(16)~~ for switching off or reducing the signal from one interadjacent antenna element ~~(2)~~ at a second time (t_2);

[[-]]means ~~(13)~~ for receiving analog signals on all antenna elements ~~(2)~~ except from the one switched off or reduced antenna element, and;

[[-]]means ~~(14)~~ for producing second values for a second radiation diagram from ~~the~~ values in the signals from the second time (t_2);

c)[[-]] means ~~(17)~~ for using the first values to calculate a first range ~~(9)~~ referring to the second radiation diagram, outside which first range ~~(9)~~ grating lobes ~~(7) will~~ appear in the second radiation diagram;

[[-]]means ~~(18)~~ for rejecting all values outside the first range ~~(9)~~, and;

[[-]]means ~~(15)~~ for finding ~~the~~ a maximum point ~~(8)~~ for the second values.

8. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~ system ~~(23)~~ according to claim 7, ~~characterized in that the system comprises~~further comprising means ~~(19)~~ for repeating ~~step~~ act b) and ~~step~~ act c) whereby ~~such~~ that ~~the~~ an antenna configuration ~~dynamically~~ is dynamically altered such that interadjacent antenna elements ~~(2)~~ are switched off or reduced until only the outermost antenna elements ~~(2)~~ remain.

9. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~ system ~~(23)~~ according to claim 7, ~~characterized in that the~~further comprising means ~~(15)~~ for finding the maximum point ~~(8)~~ for the values comprises means for calculating at what angle (θ_{max}) the maximum point ~~(8)~~ for the main lobe ~~(6)~~ appears in a radiation diagram.

10. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~ system ~~(23)~~ according to claim 7, ~~characterized in that the system comprises~~further comprising means ~~(21)~~ for converting the analog signals to digital signals by sampling.

11. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~ system ~~(23)~~ according to claim 7, ~~characterized in that the system comprises~~further comprising means ~~(22)~~ for producing a radiation diagram from the values.

12. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~ system ~~(23)~~ according to claim 7, ~~characterized in that~~wherein the antenna elements ~~(2)~~ have a relative distance ~~(3)~~ such that no grating lobes (7) will occur when using all elements in a full array.

13. (New) A computer program product comprising instructions stored on a storage medium which, when executed, perform the acts of:

receiving analog signals on all antenna elements of an antenna array at a first time t_1;

producing first values for a first radiation diagram from values in the signals from the first time t_1;

finding a maximum point for the first values,

switching off or reducing the signal from one interadjacent antenna element at a second time (t_2);

receiving analog signals on all antenna elements except from the one switched off or reduced antenna element;

producing second values for a second radiation diagram from values in the signals from the second time (t_2);

using the first values to calculate a first range referring to the second radiation diagram, outside which the first range grating lobes will appear in the second radiation diagram;

rejecting all values outside the first range, and;

finding a maximum point for the second values.